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No. 13,954/20.

APPLICATION DATED

8th January, 1920.

Applicant (Assignee of Actual Inventor) ... DILATOR SYRINGE FOREIGN RIGHTS CORPORATION.

Actual Inventor ... ... JAY ROSE, Newspaper Man, 729 Halsey street, Brooklyn, N.Y., U.S.A.

Application and Complete Specification ... Lodged 8th January, 1920.

Application and Complete Specification Accepted 25th Oct., 1920 Acceptance Advertised (Sec. 50) 3 Nov., 1920.

Class 87.2.

Drawing attached.

COMPLETE SPECIFICATION.

"Improvements in douche nozzles."

We, the DILATOR SYRINGE FOREIGN RIGHTS CORPORATION, carrying on business as Manufacturers, at 42 Broadway, in the Borough of Manhattan, City, County and State of New York, United States of America, hereby declare this invention and the manner in which it is to be performed, to be fully described and ascertained in and by the following statement:—

This invention relates to improvements in douche nozzles such as are used chiefly in conveying liquid medication to the vaginal cavity. Due to the physiological peculiarities of the membrane walls of the vagina they are readily dilated or distended and instruments for such purposes are in use by surgeons; but so far as we are aware no device is commercially known that may be freely used in safety by the individual herself.

The principal object of the present invention is to provide a douche nozzle which effectually and painlessly expands the vaginal cavity, loosening the folds of the membrane to such an extent that liquid supplied by the device is brought into intimate contact with the entire surface, thoroughly flushing the same.

A further object is to provide a douche which can be safely used even by inexperienced persons, the operations of insertion and expansion being of the most simple and elementary nature.

A further object of the invention is to provide a nozzle which will allow an easy and continuous outflow of the water or other liquid discharged through the nozzle so that the force of the discharge and the consequent cleansing effect will not be impaired.

Still another object is to provide such nozzles in forms which may be thoroughly cleansed and rendered antiseptic, and which, due to the simplicity of construction, can be manufactured at a moderate cost.

In the accompanying drawings we have illustrated two different forms of nozzles constructed in accordance with the principles of the invention, and in the said drawings,

Figure 1 is a longitudinal sectional view taken substantially through the center of a douche provided with a nozzle, made in accordance with the invention, the dilators being shown in a folded position; and

Fig. 2 is a fragmentary side elevational view of the same, the dilators being shown extended.

Referring to the drawings, 1 indicates a base piece or nipple to which the rubber

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tube from the ordinary douche bag may be attached. This piece has a central bore for the passage of the water or other liquid and at its outer end this bore is somewhat enlarged and threaded to receive the correspondingly threaded end of an inner tube 2 whose bore forms a continuation of the water passage through the piece 1. The tube 2 is provided with an enlargement 3 at its outer end, here shown as integral with the tube, the enlargement being formed with a series of pockets 4 for receiving dilators 5 when in the closed position indicated in Fig. 1. As shown, the dilators are four in number and are symmetrically arranged around the circumference of the tube, but a greater or less number may obviously be employed if desired.

The dilators and pockets terminate somewhat short of the end of the enlargement 3, which is formed of a perforated cap 6 through which the water or other liquid is discharged, the tube walls between the pockets 4 being also preferably perforated to distribute the liquid over the entire surface of the walls of the cavity to be irrigated or treated. The end cap 6 is made detachable to permit the ready insertion of a sponge or gauze containing a medicated solution to the sprayed on the surface by the water from the tube 2.

The dilators 5 are pivoted on a sliding collar 7 supported on the tube 2 immediately below the expanded portion 3 and the shoulder between the tube 2 and the expanded portion is shaped so as to act as a cam to force the dilators out on their pivots as the collar 6 is moved outward into their expanded position shown in Fig. 2. The dilators are preferably of the shape shown in Fig. 1, that is, a bow-shape, their outer ends being turned inward to lie well within the pockets 4 when the dilators are contracted while the middle convex portions of the dilators are substantially flush with the circumferential wall of the enlargement so as to present no projecting parts to engage and irritate the delicate surface of the cavity.

The mechanism for shifting the collar 7 along the tube 2 to operate the dilators may be of any suitable design, but I prefer to employ for the purpose a pair of arms or links 8 pivoted to the lower edge of the collar 7 at diametrically opposite points, the links being preferably extended through holes in a guide collar 9 formed on the tube 2 at the point indicated, and connected at their lower ends to the forked end of a bell crank lever 10 pivoted in a block 11 attached to the tube 2 near its outer end. The forked end of the bell crank embraces the tube 2 as shown, and its other end is formed to provide a thumb-piece or handle 12 by means of which the bell crank is operated, the arrangement being such that the sleeve 7 will be raised or pushed outward when the thumb-piece is pressed toward the nipple 1.

In order that the dilators may be readily operated with one hand, the sleeve 7 is preferably shifted in the reverse direction by springs 13 which may be arranged, as shown, on the rods 8 between the collar 9 and the fork of the bell crank 10 to be compressed by the upward movement of the fork.

The block 11 is recessed to fit over a lug 14 on the tube 2 to which it is attached by a screw, and pivoted in a slot in the lower portion of the block is a latch 15 which projects through a slot in the bell crank 10 and has its lower edge notched to engage a tooth formed at the end of the slot in the bell crank whereby the dilators may be locked in open or partially open position and thereby relieve the user from holding the thumb-piece against the pressure of the springs. The latch is held yieldingly in engagement with the tooth by a spring pin 16a mounted in the bell crank in the manner shown.

The operating mechanism for the dilators is covered or enclosed by a sleeve 16 of the same external diameter as the enlargement 3 between the pockets 4, whereby when the dilators are closed the instrument has a smooth tubular exterior surface from end to end.

The sleeve 16 is held in place by a short sleeve section 17 which is notched on one side to receive the block 11 with the attached bell crank 10 and latch 15. In assembling the device, after the collar 7 is placed on the tube 2 and the links 8 mounted in the guide 9, the sleeve 16 will be slipped over the tube until its upper end abuts against the shoulder 18 formed at the base of the enlargement 3. The sleeve is notched as indicated at 19 at points coinciding with the pockets 4 to permit the projection of the dilators in the manner shown. The bell crank 10 will then be attached to the lower ends of the arms 8 and the block 11 seated on the lug 14 and fastened in place. The short tube section 17 will then

be slipped over the end of the tube 2 into engagement with the lower end of the sleeve and the sleeve sections clamped in place by the attachment of the fitting 1 to the lower end of the tube 2.

The nozzle is made throughout of metal so that it may be sterilized by boiling in the same way as other surgical instruments.

Our improved nozzle has numerous advantages which will be obvious to the medical profession. The dilators are arranged to lie substantially within their cavities and the connections between the external operating member and the dilators are entirely within the outer periphery of the nozzle so that at the entrance there is nothing to irritate or cause reflex contraction of the sphincter muscle, which is not only injurious but interferes with the outflow of the liquid. Also, the shape of the dilators is such as to present a smooth and rounded surface of more or less extended area for contact with the walls of the cavity to avoid all danger of injury.

It is also to be understood that while the nozzles are designed particularly for vaginal douches, they may obviously be used for other purposes, and the invention is not limited to such special use.

Having now fully described and ascertained our said invention and the manner in which it is to be performed, we declare that what we claim is:—

1. A douche nozzle comprising a tube having a perforated end, pockets on the outer face of said tube, dilators arranged to lie when contracted in said pockets and to be projected outwardly, said tubular part having an extension of substantially no greater diameter than itself, external means adjacent the distant end of said extension for operating said dilators, and connections between said operating means and said dilators lying wholly within the periphery of said extension.

2. A douche nozzle comprising a tube, a plurality of dilators movably supported on said tube in position to lie wholly within the cavity to be irrigated, an actuating member for said dilators carried by said tube in position to lie without said cavity, connections between said dilators and said actuating member, and an extension of said tube of no greater diameter than the tube and contracted dilators, said extension completely enclosing said operating connections.

3. A douche nozzle comprising a tubular member of substantially uniform external diameter from end to end, the end portion of said tubular member being perforated and containing pockets, dilators normally positioned in said pockets with their external faces forming substantial continuations of the tube between the pockets, an actuating member for said dilators positioned to lie without the cavity to be irrigated, and operating connections between said dilators and said member lying wholly within said tubular member.

4. A douche nozzle comprising a tubular member of substantially uniform external diameter from end to end, the end portion of said tubular member being perforated and containing pockets, dilators normally positioned in said pockets with their external faces forming substantial continuations of the tube between the pockets, said dilators lying wholly within the cavity to be irrigated, an actuating member for said dilators positioned to lie without the cavity to be irrigated, and operating connections between said dilators and said member lying wholly within said tubular member.

5. A douche nozzle comprising a tubular member, a plurality of dilators movably supported on said tube in position to lie wholly within the cavity to be irrigated, spring means for holding the dilators normally contracted, actuating means for said dilators carried by the tube in position to lie without the cavity, said means comprising a movable member shiftable against resistance of said spring means, and a latch for holding said dilators in expanded position.

6. A douche nozzle comprising a tubular member, a plurality of dilators movably supported on said tube in position to lie wholly within the cavity to be irrigated, spring means for holding the dilators normally contracted, actuating means for said dilators carried by the tube in position to lie without the cavity, said means comprising a thumb-piece adapted to be pressed toward said tubular member to expand said dilators, and a latch for holding said dilators expanded, the end of the latch lying in position to be engaged by the thumb on the thumb-piece.

7. In a douche nozzle, a tube having an enlarged perforated end, longitudinal grooves or pockets in said tube, dilators adapted to lie within said pockets, said dilators projecting inwardly beyond the

enlargement of said tube and pivoted thereon, said pivoted means lying wholly within the periphery of the enlarged portion, a sleeve surrounding the smaller portion of the tube and enclosing the ends of the dilators, and means within said sleeve for operating said dilators.

8. In a douche nozzle a tube having an enlarged perforated end, longitudinal grooves or pockets in said tube, dilators adapted to lie within said pockets, said dilators projecting inwardly beyond the enlargement of said tube, a collar supported on the smaller portion of the tube, said dilators being pivoted on said collar and shaped to engage the shoulder between the small and large parts of the tube when the collar is slid on the small part of the tube toward the enlargement thereby expanding the dilators, an operating member for said dilators at the other end of the tube, a connection between said sleeve and said operating member, and an external sleeve surrounding said connections and the ends of the dilators, the outer periphery of said sleeve forming a substantial continuation of the periphery of the enlarged part of the tube.

Dated this 8th day of January, A.D. 1920.

EDWIN PHILLIPS,
Director of Phillips, Ormonde (Inc.) Pty. Ltd.,
Agent for Applicant.

Witness—Jack Nance.

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DILATOR SYRINGE FOREIGN RIGHTS CORPORATION. *Douche Nozzles.*

Fig. 1.

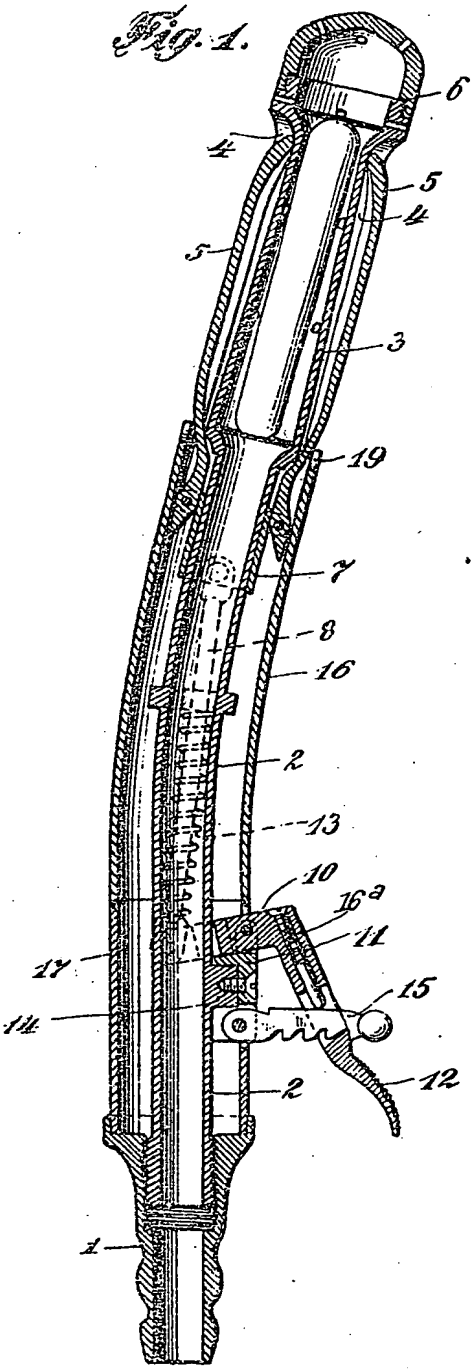

Fig. 2.